

### Abstract

The invention improves a polishing process for a wafer retained in a multizone carrier in a chemical mechanical polishing tool. A light signal is communicated to the front surface of the wafer and the reflected light signal is captured by a metrology instrument. The metrology instrument communicates the intensity of the reflected light to a control system. The location or radial position corresponding to the reflected light signal from the front surface of the wafer may be determined by the control system. From the intensity measurements and corresponding locations, the control system is able to determine an approximate topography of the wafer. The control system may alter the pressure within one or more zones within the multizone carrier to improve the polishing process. The control system may also alter the initial pressures within the multizone carrier for future wafers based on the polishing results from the present wafer.

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